

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

This response submits the claim amendments from the unentered response filed on April 6, 2011, with the identifier of claim 32 being corrected. No amendment was made to claim 32 in the last response.

The Advisory Action states that there is no support for a tool electrode consisting essentially of Si. Electrode 49 may be formed, as described in the non-limiting example on page 11, lines 15-18, from a solid body of Si and Si powder. The term “consisting essentially of” provides the accurate description of an electrode of solid Si and Si powder where there may be some impurities or other non-Si element in the electrode. Claim 32 finds support in the original application.

The following remarks are those submitted in the April 6 response. Consideration of the amended claims is in order, and is respectfully requested.

Claims 26-28 and 30-32 are present in this application, claims 26 and 30 being amended and claim 29 being canceled by way of the present response.

Claims 26 and 30 are amended to make minor changes for clarity. No new matter is believed to be added.

Claim 32 is rejected under 35 U.S.C. § 112, first paragraph, regarding the use of “consisting essentially of.”

Under 35 U.S.C. § 102(b), claim 29 is rejected over WO 00/53896 (equivalent is U.S. 6,796,866 (Kannefass et al.)).

Under 35 U.S.C. § 103(a), claims 26, 30 and 31 are rejected over U.S. 6,492,611 (Goto et al.) in view of JP 5-148615; claim 27 is rejected over Goto et al. or U.S. 5,434,380 (Magara et al.) in view of JP 5-148615 and U.S. 6,042,898 (Burns et al.); claim 28 is rejected

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over Goto et al. or Magara et al. in view of JP 5-148615 and Kannefass et al.; claims 26 and 30-32 are rejected over U.S. 5,434,380 (Magara et al.) in view of JP 5-148615.

Claims 26, 30 and 31 are provisionally rejected under 35 U.S.C. § 101 over claim 75 of Application Serial No. 10/563,173. Under the doctrine of obviousness-type double patenting, claim 27 is provisionally rejected over claim 75 of Application Serial No. 10/563,173 in view of Burns et al.; claim 28 is rejected over claim 75 of Application Serial No. 10/563,173 in view of JP 5-148615 and Kannefass et al.; and claim 32 is rejected over claim 75 of Application Serial No. 10/563,173 in view of Magara et al.

Addressing first the 35 U.S.C. § 112, first paragraph, rejection, the Office Action asserts that the phrase “consists essentially of” lacks support in the original disclosure because it would include minor elements that are not actually disclosed. The meaning of the phrase “consisting essentially of” is judicially well-established to define a claim scope as limited to the recited material “and those [materials] that do not materially affect the basic and novel characteristic(s)” of the claimed invention. See MPEP §2111.03 and *In re Herz*, 537 F.29 549, 551-52, 190 USPQ 461, 463 (CCPA 1976).

Moreover, in the original disclosure lines 15-16 on page 11, for example, state “the electrode 49 is composed of a molded body molded by compressing a solid body of Si and powder of Si by means of pressing …” One skilled in the art would construe this description as preparing a body consisting essentially of Si and that the molding or pressing process unavoidably causes incorporation of some impurities into the electrode. Such impurities do not materially affect the novel characteristics of the electrode. Thus, the disclosure adequately supports the language of claim 32 since it provides adequate support for an electrode “consists essentially of Si” and possibly includes “minor elements that are not actually disclosed” that do not materially affect the basic and novel characteristics of the electrode.

Withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, is respectfully requested since the “consisting essentially of Si” language in claim 32 is adequately supported in the specification.

Turning to the prior art rejections, claim 26 recites “forming a coating including SiC coated on the portion by processing the portion as a workpiece of an electric spark machine with a tool electrode of Si in a liquid including alkane hydrocarbons.” While the claimed method employs an electrode of Si, the formed coating includes SiC. As it is easier to provide sufficient electric conductivity for Si than SiC, an electrode of Si is more adapted for generation of electric sparks to form a coating of SiC. SiC is a compound of Si and C and should not be construed to “include Si” as recited in claim 26.

As previously discussed in the response filed on October 21, 2010, Goto fails to teach use of Si as an electrode to form a coating including SiC. In Goto, formation of a coating including SiC requires use of an electrode including SiC. Claim 26 cannot be derived from Goto.

Magara teaches use of copper, graphite and the like as an electrode (see column 5, line 21, for example). While Magara teaches use of silicon particles, these particles are mixed with a solution (see column 5, lines 48-52) and are not used as an electrode. Further, as also discussed in the response filed on October 21, 2010, Magara fails to teach formation of a coating including SiC. The discussion at column 6, lines 55-57 only refers to forming a silicon cover film and column 7, lines 15-17 does not mention forming a SiC coating using an Si electrode.

The other references, i.e., Bettridge, Burns and JP 5-148615, also fail to teach or suggest use of an electrode of Si to form a coating including SiC because these references are silent about both an electrode of Si and a coating including SiC.

Therefore, claim 26 differs from the cited references as there is no disclosure or suggestion of “forming a coating including SiC coated on the portion by processing the portion as a workpiece of an electric spark machine with a tool electrode of Si in a liquid including alkane hydrocarbons” as recited in claim 26.

Also, to form a coating including SiC from an electrode of Si, chemical reaction of Si departing from the electrode with alkane hydrocarbons is used as recited in claim 26. However, none of the references suggest such a reaction. Claim 26 also differs from the cited references for this additional reason.

Based on these teachings, one skilled in the art could not have a reasonable expectation of success in formation of a coating including SiC from an electrode of Si. When there was no expectation of success, a conclusion of unobviousness is improper. *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1207-08, 18 USPQ2d 1016, 1022-23 (Fed. Cir.), cert. denied, 502 U.S. 856 (1991).

Regarding the provisional double patenting rejections, applicant intends to cancel claim 75 in the co-pending application Serial No. 10/560,173. Thus, the provisional rejections under 35 U.S.C. § 101 and under the doctrine of obviousness-type double patenting are believed to be overcome upon cancelation of claim 75.

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It is respectfully submitted that the present application is in condition for allowance, and a favorable action to that effect is respectfully requested.

Respectfully submitted,

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